THE

PALESTINE EXPLORATION FUND.

PREFACE.

IN the letters and reports of Lieutenant C. R. Conder and Mr. Tyrrwhitt Drake will be found the usual record of work done during the last three months. In February portions of four more sheets of the new map arrived in England, making a total up to the present of 1,250 square miles, which represents the whole of last year's work. The Committee have now made application for another noncommissioned officer of Royal Engineers to strengthen the party and accelerate the survey. If their application to the War Office be granted, as on all previous occasions, the new man will be sent out at once; and if we could see our way to sending out another in addition, the progress of the new map would be very rapid. As to the work already done, it lies in the office of the Fund, ready to be inspected by any who may wish to see it. It is in the highest and best kind of map-making, on a scale of one inch to the mile, and will give, when completed, a perfect map of Palestine as it is, with every village, every ruin, every *tell*, and every existing name. As regards the publication, we shall probably have a plan agreed upon by the Committee before the issue of the next *Quarterly*. At present we can only say that as the sheets are completed they will be published, without any unnecessary delay, in the best style possible, and by the best map-makers in the country. The part of Palestine already surveyed appears in the illustrative sketch-map of the frontispiece. The surveyors are now on the coast, the last letters from Lieutenant Conder speaking of the ruins at Athlit, of which he promises sketches and plans. We have not yet received the sketches and plans of those ruins over which they have already passed. Lieutenant Conder has made careful drawings and examinations of every one for the Committee, and will probably send them home by the first safe means.

The Special Fund for Jerusalem is open, as will be seen from our business sheet. Those subscribers who wish to devote their

gifts to the further exploration of the Holy City, have only to notify their intention to the Secretary.

The American party have started on a preliminary expedition east of Jordan. We hope to have accounts of their progress in the course of the year.

It is gratifying to state that the sale of the new book issued by the Fund is going on more favourably than was anticipated. Nearly five thousand have now been sold, and the new edition, which is in the press, is already largely ordered. The Committee, it must be borne in mind, had in view, in the issue of this book, two objects: first, to show what had been done; and, secondly, to show what yet remained to be done; that the perfect exploration of the Holy Land is no visionary scheme of a few theorists, but an urgent and crying necessity, by means of which controverted points may be decided, the bounds of controversy narrowed, and the history of the Bible brought out in fuller light.

A new arrangement has been made with regard to the photographs of the Fund. Many of these, taken for an archæological or architectural point of interest, have not proved interesting to the general public. A few new ones have been added. A selection of one hundred has now been made, and the following arrangement has been decided on: they can be purchased by Subscribers, instead of at the old rate of one shilling each, at one guinea for twenty-five, two guineas for fifty, or four pounds for the whole set of one hundred. Mr. Stanford, 6, Charing Cross, will still be the agent. The new list, with two recommended lists of twenty-five each, will be ready in a few days.

We propose to hold an exhibition in the summer, and have taken the Dudley Gallery for the purpose. We are very glad to announce that, owing to the kindness of Mr. Harper, we shall be able to show the whole of his beautiful sketches of scenery in the Holy Land; we shall also be able to exhibit some of Mr. Simpson's pictures of Underground Jerusalem. M. Clermont-Ganneau has promised a facsimile cast of the Moabite stone. This will be the first time this invaluable *stèle* has been exhibited. There will also be a cast of the recently found stone from Herod's Temple; casts of the Hamath Inscriptions; and, besides other things, the whole of the photographs, collections, models, &c., illustrating the survey of Sinai. It is hoped to open the exhibition very early in June.

It will be seen that the spelling of the Arabic names in Mr. Drake's reports differs from that previously adopted in printing his reports. The spelling is now his own. In the next *Quarterly* he will give his reasons for differing from Dr. Robinson and others.

MAP
to illustrate
LIEUT. CONDER'S LETTERS
"The country enclosed within the firm black line has been surveyed and tracings of the work are to be seen at No. 9 Pall Mall. Lieut. Conder is now engaged in surveying the country between Cape Carmel and Jaffa."
Cape Carmel
Haifa
Acre
Athlit
Tantúra
Kaisáriyeh
Arsuf
Jaffa
Yázúr
Ramleh
Ludd
Amwas
Yalo
Latrún
Tibneh
Abu Shusheh
Yasúr
Tell es Safieh
Beit Nuba
Beit Ur el Foka
Beit Ur el Tahta
Jimzu
Neby Samwil
Jerusalem
Bethlehem
Solomon's Pools
Mar Elyás
Mar Saba
Ain el Feshkhah
Dead Sea
Jordan
Sea of Galilee
Nazareth
Tabor
Jenin
Tell Dothan
Nablous
Joseph's tomb
Gerizim
Ebal
Salim
Akrabeh
Sanúr
Jeba
Tubás
Beisán
Jelbón
Sukkot
Teyasir
Kefr Kud
Kefr Kenna
Kaukab el Hawa
Jefat
Tell Hum
Khan Minyeh
Tell Asúr
Rummon
Mukhmas
Ain Yalo
Ain Karim
Ain Shems
Tell es Sumt
Kh. Hudria
Kh. Kefireh
Kh. Sheikh Abreik
Kh. Kaukab
Kh. Sheikh Sa'ad
Kh. Jibia
Kh. Jufna
Kh. Beitin
Kh. Birch
Kh. Ram Allah
Kh. Ataneh
Kh. Singil
Kh. Tell Asur
Kh. Jurmas Aya
Kh. Seilun
Kh. Daumeh
Kh. Surafbeh
Kh. Kefr Kha
Kh. Jiljuleh
Kh. Kakon
Kh. Sanur
Kh. Jeba
Kh. Tayibeh
Kh. Mukhmas
Kh. Hurmuz
Kh. Kefr Kenna
Kh. Jefat
Kh. Tell Hum
Kh. Khan Minyeh
Kh. el Mujahar
Kh. el Mejdel
Kh. el Kerak
Kh. el Hamam
Kh. Ain Jalud
Kh. Jebel ed Duhy
Kh. Jebel el Fuleh
Kh. Yafa
Kh. Mahul
Kh. Ain Sarida
Kh. el Lejjún
Kh. Um el Fakhm
Kh. Ta'annuk
Kh. Kaukab el Hawa
Kh. Mejdia
Kh. Yerin
Kh. Jebel Duhy
Kh. Jebel el Fuleh
Kh. Nein
Kh. Merom
Kh. Safed
Kh. Yerka
Kh. Shafa
Kh. el Mujahar
Kh. Khan Minyeh
Kh. Tell Hum
Kh. el Mejdel
Kh. Jafarieh
Kh. el Kerak
Kh. el Hamam
Kh. Kefr Kenna
Kh. Kaukab
Kh. Sheikh Abreik
Kh. Kefireh
Kh. Jebel ed Duhy
Kh. Jebel el Fuleh
Kh. Nein
Kh. Yafa
Kh. Mahul
Kh. Ain Sarida
Kh. el Lejjún
Kh. Um el Fakhm
Kh. Ta'annuk
Kh. Kaukab el Hawa
Kh. Mejdia
Kh. Yerin
Kh. Ain Jalud
Kh. Jelbón
Kh. Beisán
Kh. Sukkot
Kh. Teyasir
Kh. Kefr Kud
Kh. Jenin
Kh. Tell Dothan
Kh. Nablous
Kh. Joseph's tomb
Kh. Gerizim
Kh. Ebal
Kh. Salim
Kh. Akrabeh
Kh. Sanur
Kh. Jeba
Kh. Tubás
Kh. Tayibeh
Kh. Mukhmas
Kh. Hurmuz
Kh. Kefr Kenna
Kh. Jefat
Kh. Tell Hum
Kh. Khan Minyeh
Kh. el Mujahar
Kh. el Mejdel
Kh. el Kerak
Kh. el Hamam
Kh. Ain Jalud
Kh. Jebel ed

THE SURVEY OF PALESTINE.

LIEUT. CLAUDE R. CONDER'S REPORTS.

XI.

Winter Work.

R. E. Station, Haifa, *Jan.* 20, 1873.

Survey.—In sending home another instalment of our survey, I find a good opportunity for a review of the work which we have done since last July, when first I became personally concerned in the Expedition.

The Ordnance Survey of Palestine now extends over rather more than 1,250 square miles, the work of little more than a year, and representing about one-seventh of the total amount which it is proposed to include. Viewed in the light of work accomplished by a most insufficient party (as far as numbers are concerned), this will, I imagine, be considered a result more satisfactory than could have been expected; but, on the other hand, the fact that at the present rate six more years would be required to complete the undertaking, points to the extreme desirability of increasing the number of men to be employed in the work.

It is calculated that during the first period up to Nablus the monthly rate of progress was about 110 square miles. From Nablus to Haifa it has been slightly over 140 square miles. Thus, up to July, 1872, when the first tracings were sent home, 560 square miles were completed with the exception of the hill-shading. The present tracings contain, roughly speaking, 700 square miles, and are complete, the hill-shading being included.

The main reason for this increase of thirty-six per cent. in the rate of work I take to be the increased size of the sides of triangles in the triangulation, which is rendered possible by the less mountainous character of the country. The detail has been almost as close in the plains as in the hills; the number of ruins visited and examined has been greater, but as it is possible to ride faster, and therefore farther, in the plains, the possible distance apart of trigonometrical stations has been greatly increased. Thus in the Judæan hills the average length of the side of a triangle was five miles; in the Plain of

Esdraelon it may be taken as about ten ; and in the country between Nazareth, Cæsarea, and Akka, at fifteen. Nor has the accuracy of the work in any way suffered, as is proved by the calculations for latitude, which agree within two or three seconds with those of the Admiralty Chart for Akka and Cæsarea, and agree also as nearly as can be plotted with the triangulation. Finally, as commanding points have always been chosen, the detail also has, during the clear autumn weather, been observed from the stations with as much exactness as was obtained with smaller triangles.

I have already reported on the satisfactory manner in which the second base was measured and checked. Haifa is for another purpose as important a station as the Plain of Esdraelon was for checking the plan or azimuth measurements of the triangulation. The heights of the trigonometrical stations are fixed by a chain of vertical angles starting from Jaffa and running up the country to Nazareth, and down to the sea-coast at Haifa. The most direct line observed is carried from one to another over eleven points, whilst other lines, which serve as checks, include even a greater number of successive operations. The error, if there is any, will therefore have increased gradually ; and to test this the actual height of the last point (the Convent on Carmel) has been ascertained by another method to be 556.25 feet above sea level. We are not able, as in the case of the base line, to report on the result of this check, which must await calculations to be made in England, but there is no reason to suppose that the result of these observations will turn out to be at all less satisfactory than that of the measurement of the second base.

There is only one other point in the technical part of the work which is likely to be interesting to subscribers generally: this is the representation of the hills, which has not been previously added to the map. One of our late visitors complained that in no map which he had ever seen of Palestine was there any idea given of the character of the surface of the country, which is certainly a very peculiar one, as the almost equal heights of most of the hills, and the frequent deep and stony valleys which are often concealed until close at hand, and in many cases extremely tortuous, are features very different from any in at least English scenery.

The large scale of our map allows of these features being well shown. The method employed is that commonly used in the Ordnance Surveys of showing the slopes of the hills, not as though a light fell upon them from a corner of the paper, but simply with regard to the comparative steepness of the gradients. Thus the darker shades represent the steeper slopes according to a definite scale, and although on a larger map the accidents of the ground would be even more minutely distinguished, still for its scale the one-inch survey of Palestine would form a perfect military map, as the practicability of the gradients for the passage of infantry, artillery, or cavalry, could be at once obtained by use of the scale of shade. A commander would

indeed be unprepared for the extreme stoniness of the country, which would render military movements very tedious, and for the condition of the roads, but these are not details which it is possible to show on a map.

Archæology.—The return which accompanies the maps will, I hope, give a distinct idea of the character and conditions of ruined sites in Palestine, an idea which it is difficult to convey vividly in a short report. A few words may therefore be added in explanation of the return. The number of ruins is approximately 200, of which, however, twenty-one per cent. are evidently modern and of no interest, being merely inserted because they are marked as ruins on the map; these include the small towers of drystone walls with a roof of mud, which are placed in conspicuous positions above the fig, olive, and vine plantations, and from the top of which the watchman looks out to guard the fruit from thieves. By reason of their hasty construction they fall readily into ruins, but are easily distinguished from more ancient and interesting remains.

No less a proportion than thirty-five per cent. of the ruins are, it will be observed, marked "Indistinguishable" or "No indication of date." The state of preservation of the ruins seems to preclude the possibility of assigning a date. The "indistinguishable" ruins consist of heaps of broken stones, worn by the heavy winter rains, until all idea of their original form, finish, or purpose is lost; often the only indication is the grey colour of the mound, to which the name of Khirbeh is attached, or a few scattered stones; rarely indeed is a shaft, base, or capital discovered lying without indication of its position in the original building, and none yet found can date before the Herodian period. In fact, the site of a true Jewish town may be expected generally to give no further indication than the dusty mounds described, except, indeed, such as is derived from the vicinity of rock-cut tombs and reservoirs or channels which, as at Anin (identified by Mr. Drake with a Jewish town), exist close to the accumulation of powdered masonry of some two thousand years ago.

In some cases the old materials have been used in newer constructions, and these again have fallen into ruins almost untraceable; still more frequently pillars and stones have been rolled down hill or carried away for use at a distance.

Thus, for instance, at Nablus the granite shafts, belonging possibly to the Samaritan temple on Gerizim, are to be found amidst the ruins of a Roman villa in the plain, and again in another site of same date at a little distance, whilst even to the present day the habit is continued by the natives, and of the fine blocks once strewed round Tell el Semak, near Haifa, no trace but the holes dug in excavating them is left.

In an archæological point of view, such ruins, though not more effaced than would be expected, considering their great age and the violent action of the weather upon them, are of course wholly without

interest; but when their presence confirms the arguments to be deduced from comparison of names, from incidental references in ancient writers, or from similar sources of information, their true value becomes apparent. Hence even the most unpromising are carefully noted, and already in many instances their discovery has proved of greater importance than could at first be expected.

Turning from these, which form the majority of the remains tabulated, to others in a more perfect condition, the first in interest are perhaps the *tells*, of which eighteen principal examples are scattered over the great Plain of Esdraelon and that of Akka. Their artificial nature is plainly shown by their position, though the name is also given to natural hillocks, such as the Túlúl el Jah'ash, which are volcanic outbreaks. In the great plain they appear towards the foot of the hills, on the west and north, generally at the mouth of wadys. No doubt they were originally intended as military posts, perhaps thus guarding the principal inlets by which incursions from wild mountain tribes were to be feared. Their shape is roughly oval, or circular, with sides sloping at between thirty and forty degrees; in size they vary from that of Tell Mutasellim, large enough to be the site of a considerable town, to that of such small mounds as Tell el Súbát, which is merely a low mound; in height they must in some instances be over thirty feet. They are covered with coarse grass, and with thistles, which often attain a height of seven or eight feet, and during a part of the year present a formidable barrier. The ruins on these *tells* are in many instances far more modern, as at Tell Kaymun, mentioned later, but the original builders may have belonged to the Canaanitish period. Unlike those mentioned by Captain Warren in the Jordan Valley, it would seem probable that they are formed of, or cased with, stone such as that of the surrounding hills; but none of them gave any indication of a favourable spot for excavation, as much time and money might probably be expended with but small result.

Next in interest to the tells come the rock-cut tombs and water-channels, of which we have found twenty-six groups. The water-channels were found at Anin, Lejjun, Kireh, and near Saffuriyeh. In the first three cases they are passages resembling the famous one at Jerusalem, between the Virgin's Fountain and Siloam, just broad and high enough for a man to walk in, and terminating suddenly. At Lejjun and Kireh there was a stream of water ankle deep flowing through the passage, and a sound of trickling water at the end, which, in the three cases, was at a distance of some twenty feet from the entrance. The reservoirs near Saffuriyeh are, however, on a far larger scale. They were kindly shown to us by Mr. Zeller, who also, I believe, took Captain Wilson to the place, and a couple of days were spent in planning them, and in tracing the aqueduct which brought water to them. Mr. Drake has already referred to them, so I will merely add that the passage at the western end is choked, and is one of the places where excavation would be desirable, as the ultimate destination of the

large quantity of water thus collected is not at present clear. In each of these four cases a rock-cut cemetery exists in the immediate neighbourhood of the water-channels, and no doubt an ancient town, of which both tombs and aqueducts are the only remains, was also situate near to them.

The groups of tombs may be divided into three classes in the table: those with the well-known loculus running perpendicularly in from the walls of the chamber; those with loculi in arched recesses, or some other arrangement, counting with them such as are blocked up or broken away, so that it is impossible to say that they have had perpendicular loculi; finally, tombs like those at Iksal, already described in a former report, which appear to be of Christian origin. Of the last class there are but two other examples; of the first, or indisputably Jewish tombs, there are ten groups, and the remaining fourteen are included in the second class. The most important of these groups is that at Shaykh Abrayk, where I examined and measured fourteen separate tombs besides the great system of chambers, of which I have already sent home a plan, as well as two others called Magharet el Jehannum and Magharet el Siah, the latter being on a gigantic scale, the side recesses fifteen feet long, and the height of the farther portion of the cavern about twenty feet.

A few remarks on the principal deductions to be made from a comparison of these tombs, will not be out of place here.

It is generally supposed that the perpendicular loculus is distinctive of Jewish tombs, and M. De Vogüé lays much stress on the fact of its non-appearance in other countries. At Shaykh Abrayk, however, as well as at Haifa, the perpendicular loculus is found associated with two other arrangements of what may be called *attached sarcophagi* standing in arched recesses at the sides of the chamber. In these cases the perpendicular loculus appears nevertheless to be the oldest; it is always found in the outer, never in the inner or subsequently excavated chambers. In one case three such loculi have been destroyed in subsequently enlarging the chamber; in others they exist on the level of the floor, and below loculi raised some three feet, and of different character. It appears just possible that this peculiar arrangement may have been for some special purpose or class of corpses, as distinguished from those of the parallel loculi. In one tomb at Shaykh Abrayk, in which these loculi occur, a single word is written in Greek letters with red paint in the inner or newer portion of the tomb. At Haifa a rough representation of the seven-branched candlestick appears outside a sepulchre containing both kinds of loculi. Neither of these indications of date are, however, conclusive. The Greek-writing nation may have enlarged an ancient Jewish tomb, as indeed the destruction of three of the perpendicular loculi would seem to point out; whilst, on the other hand, at Haifa the tomb is in the present Jewish cemetery, and *may* have been re-used by the Jews, and the sculpture be thus later than the tomb.

On the whole, however, there seems to be nothing in these discoveries

to contradict the opinion that where we find tombs with the perpendicular loculus we have a trustworthy indication of true Jewish handiwork.

M. De Saulcy mentions a tradition in connection with his discovery at the so-called Tombs of the Kings at Jerusalem, that the roofs of sepulchral chambers intended for women were formed of two planes meeting in the centre, which was the highest part, whilst those of the chambers for men were either flat or arched. Of the former construction I have found one example at Shaykh Abrayk, in a tomb consisting of one chamber, with places for eighteen bodies, and an unique arrangement. In one of these loculi I found a perfect but very ancient skull.

In conclusion, it appears that not unfrequently two tiers of chambers existed above one another, and often a hole broken in the recess behind one of the loculi leads to another system of chambers, which in some cases *seem* to have no other entrance. Many loculi are so small that they must have been intended for children.

So curious and interesting are these tombs that I might fill many pages with descriptions and notes upon them, which, however, I must reserve for a future report. It is to be hoped that a perfect, or almost perfect, collection of plans from every part of Palestine will in time materially increase our information as to their date and history.

We can only point to three ruins besides the tombs and water-channels with any certainty as being Jewish. These are, the terraces and ruins of Kh. Jafa, the ancient wells and indications of ruins at Tell Dothan, and the curious cairn at El Mintar. Of the indistinguishable remains, however, a large proportion may most probably be previous to the Herodian period.

Next in order come the Roman ruins, of which we have found twenty-three indisputable examples; they are not, however, of any great importance, with one or two exceptions. The reservoirs near Saffuriyeh just mentioned are, from the cement, Roman in all probability, as well as the aqueduct leading to them, which we traced for a consieerable distance, and found that it was possible for it to come, as it is said to have done, from the Ain el Jinán. It is partly built in rustic masonry and mortar, but during the greater part of its length seems to have been merely a small rock-cut channel, as described by Mr. Drake. The temple (as we suppose it to be) at Kh. Abu 'Amir is also no doubt Roman. I have already mentioned it in a report, and sent home a plan and drawings of the details, such as still remain. It is quite possible that a little excavation here might bring to light something of interest, possibly an inscription. The floor is covered with some four feet of rubbish, so that mining would be out of the question. We did not, however, at the time think it advisible to stay for such a task, as the discovery was made in September, when we were at Jenin, and most anxious to move from a temperature of 108° Fah. in the plain to the cooler atmosphere of the hills.

There can be little doubt that Shaykh Abrayk was a place of some importance in Roman times. Capitals, foundations of walls, and the extensive cemeteries which seem to me to show two periods of sepulture—the Jewish on the eastern, the Roman on the more western hills, all point to this fact. The place has been curiously overlooked before, and its identification will be one of interest. A small building, possibly a temple, exists near the town at a spring, and is known as El Is-hakiyeh.

One other point remains where excavation would be desirable, as well as at Abu 'Amir, and in the reservoirs at Saffuriyeh: this is the ruin of El Jireh, near Nazareth. Report X. gives an account of the tombs, which I thoroughly explored and measured; but the ruin on the tell we were unable to examine. I understand from Mr. Zeller that vaults of megalithic masonry (drafted, I believe) support the mound in part, and we employed a native for one day to excavate a passage from above, where the sinking of the surface indicated that the vaulting had given way. His attempts were unsuccessful, and I found that some half-dozen men would be required, and several days would no doubt elapse before we could get through the surface rubbish. Should the Committee consider it worth while, we could easily devote a little time to this exploration when camped in the neighbourhood again, as El Jireh is near the edge of our work. Cement-lined cisterns, scattered stones, a pillar shaft, a bit of plain cornice, and a couple of caves, with traces of the old road to the place, are the only remains to be found on the exterior of the tell; the spot is, however, very well known to the natives, and may prove a site of some interest.

The fine structural tomb of M'alul, first visited by Captain Wilson, the remains of a probable Roman villa at Nablus, which we excavated partially, the Herodian colonnade at Samaria, the altar and sarcophagus at Kh. Khasneh, the ruined building at Lejjun, have all been mentioned in previous reports, and I have taken such plans and sketches as were rendered possible by the condition of the ruins.

To pass on to later times, the Byzantine and early Christian ruins are next in chronological order. These include the two churches of Justinian at Nablus already visited and explored by Captain Wilson, the interesting but almost untraceable little church newly discovered by Corporal Armstrong on Tell Kaymun, of which I have a plan, and the two small convents at the 'Ain Umm el Faruj, mentioned by Mr. Drake in his last report.

Of Crusading, or early Saracenic ruins (for it is not always easy to distinguish between the two), the list enumerates twelve, including the tower of Saffuriyeh, the Burg-Fara'a in the wady of the same name, the tower near Jenin, and the small forts or Khans (in both cases with tower attached) at Rushmia, near Haifa, and on Tell Kaymun, the tower at Iksal, the church of St. John at Samaria (already well known), and the remains of the fosse round the once important town of El Fuleh.

Although the earlier Crusading buildings, when the rounded arch of the Italian Gothic was still retained, are easy to distinguish, those structures which were built *after* the first half of the twelfth century are nearly connected with the early pointed Saracenic style. The use of a draft also was common to both styles, the centre being left with a rustic bow projecting on the average six inches; the draft being three inches broad, and sunk about the same amount; the stones, well proportioned, but of no great size, being on the average five to six feet in length. To this style the tower near Umm el Fahm, which has been called a *vineyard tower* by Mr. Drake, as well as two which I discovered and sketched on the hills east of Jenin, belong. In one of these I found the remains of a door and the shafts of two small pillars, much worn. The object of these small towers, the largest of which is only some thirty feet in length and breadth, is not to me at all clear; they occupy positions at some elevation. Near one (the Kasr at R'aba) no less than five rock-cut cisterns or wells, near the other no water at all, is found; they are not placed in specially commanding situations, as in the case of the Rushmia fort or the building at Tell Kaymun, and altogether they are puzzling both in style and in locality.

Such is a brief account of the archæological explorations which have been carried out during the last six months. More detailed notes, plans, and sketches, await a time when our work shall leave leisure to put them into a connected form, and are carefully stored in order in my note-book.

To sum up, we find 35 per cent. of the ruins "indistinguishable." Of Jewish remains, the rock-cut tombs and reservoirs, the tells, and a few ancient wells and cisterns, are the principal; tombs, reservoirs, temples, and traces of a town, are amongst the Roman remains. Churches and towers represent the works of Christian architects. Adding together Jewish and Roman remains, we find some 35 per cent. to be of interest in illustration of the Bible and Josephus. Were *all* the "indistinguishable" ruins Jewish, we should have 70 per cent., the value of which future examination of the literature of the subject would show, but this proportion cannot be reasonably expected. It seems probable, however, that we have now collected in the country between Nablus and Haifa alone, at least one hundred ruins, which may some day serve to throw light on the Biblical topography of Palestine.

Geology.—The later portion of the geological map has proved more interesting than that mentioned in former reports, and I now send home a tracing of the part already complete. It extends from Nablus, where I first commenced it, to Haifa, covering the same ground shown in the traces (700 square miles) and is on a scale of four miles to one inch, sufficient to show all details of importance. The various surface formations are shown by different colours, and a short explanation only will be required.

The blue represents the hard limestone, which includes the following varieties, following apparently in the order given :

1. *Hard dark-grey dolomitic limestone*, the lowest formation of all, generally thinly bedded and splitting into cubes, which gives the appearance of an ancient pavement; it is, however, often in the lowest valleys found to be bedded in thick steps like the "scala" limestone. It is crystalline, and coloured with salts of iron. It is full of natural caverns, the formation of which is a matter for discussion. It contains no fossils, and generally exists where the basalt appears, whence it may be thought to be metamorphic. It belongs to the Neocomian period, that of our own greensand.
2. *Hard, compact, fine-grained limestone*, very crystalline, and breaking with an almost conchoidal fracture, a sort of yellowish grey colour, and bedded more thickly than the former.
3. *Similar to the last*, but thinly bedded, very white in colour, and containing numerous layers of large flints.
4. *Grey, hard, crystalline limestone*, containing *Gryphæa Capuloides*, *Corbula Syriaca*, and other species belonging to the period of the English lower chalk formation.

The next series of formations found at Nablus, immediately overlying the uptilted dolomite, is coloured with yellow ochre, and contains only two varieties—the soft, cheese-like marl, which can be cut with a knife, and which does not seem to harden on exposure; and a very thinly bedded (laminated, one might almost say) but harder chalk, which contains a few flints, and which I observed on the summit of Carmel, where it appears suited to the growth of the *Pinus Aleppensis*, here found in abundance.

The distinction between this group and the upper beds is not well marked, as I have already had occasion to notice, but the principal distinction is the external appearance, for the more recent chalky limestone does harden, externally at least, on exposure to the air, and is found to be softer and softer the farther from the surface one goes, though very often hard veins, almost crystalline, run through the soft.

The principal varieties of this series, which is coloured green, are as follows :

1. White calcareous limestone, containing a few fossils, and soft when quarried, but hard and dark-coloured on the exterior. It contains no flints.
2. Hard, semi-crystalline limestone, ringing like a bell when struck, very white. Interstratified with former.
3. Beds of flint conglomerate (as near Nablus), ten to fifteen feet thick, very hard and compact.
4. Limestone in beds ten feet thick, soft internally and full of very large flints.

The Nummulitic limestone, common in the south of Palestine, does

BIBL. COLL. TUCH...

not appear in the part of the map now completed, in the Jebel Nablus and Galilee.

The German colony at Haifa have carried extensive quarries into the sides of Carmel, and here I had a better opportunity of studying the last-mentioned formation, and obtained, partly through the kindness of Mr. Shümaker, the American consul here, partly by our own observations, the first fossils which we have been able to collect.

These beds are, I believe, generally supposed to be contemporary with the earliest Eocene period; but an inspection of the fossils seems, as far as my limited experience goes, to point to their being earlier, or of the chalk period. They include some specimens of Ammonites resembling the *A. Rotomagensis* found by Captain Wilson at Jerusalem, two kinds of Echinus, a fossil somewhat resembling the Perylla (one of the Dibranchiata—a sub-division of Cephalopods), and some very small shells, apparently of Acephalous mollusks, which must await examination and description by some one more competent to pronounce an opinion.

The beds in which they occur are uptilted at various angles, often almost perpendicular. They show the interstratification of the harder layers, and the side of the hill which they form has a slope of thirty-five to thirty-seven degrees, the dip being nearly coincident with the north-east declivity of the mountain.

Turning to more recent geological features, the outbreaks of basalt which, with one exception, are new discoveries, are first in importance. They are in all thirty in number, occurring in the Plain of Esdraelon, the largest being on the side of Mount Gilboa. My last report gives the principal points of interest with regard to them.

The Plain of Esdraelon is coloured with a purplish tint to distinguish it from the other small plains, because of the difference of its soil, consisting of basaltic *débris* of a rich dark colour, which occurs to a certain extent in the Merj Arrabeh, but differs from the more argillaceous topsoil of the other smaller plains.

The only remaining formations to consider are those found at Haifa, near the sea-shore, and which are quite local, and formed originally a sea beach farther inland than the present line. There are six varieties, found as follows, all being represented by a wash of light red on the map.

No. 1. A fine shelly conglomerate, formed (as it is still forming in places along the beach) by the consolidation of small shells and water-worn fragments of shell and flint, cemented with lime, and forming a building stone of brownish colour far harder than the white limestone. Quarried near Carmel.

No. 2. Coarser conglomerate of broken shells found on the beach.

No. 3. Third quality, still coarser, on the beach.

No. 4. A plum-pudding stone of flints and rolled pebbles, so hard as to be used for mill-stones by the Germans; there are

two qualities, the softer being of reddish colour from infiltration of iron in the cement. This is not found to stand the wear and tear of the upper millstone quarries near Carmel.

No. 5. A coarse breccia of limestone and flints of large size, forming a bed extending along the coast south of Tell el Semak, evidently the old shore-line.

No. 6. A sandstone consolidated by pressure, but not very crystalline. In this the tombs west of Haifa are cut.

These littoral deposits are probably not of one date, the first-mentioned being the oldest. In some of the finer, shells which are but half fossilised, retaining their white colour from the lime in their composition, appear. In other cases the shells are completely changed, and of the same colour with the stone.

The same process which now carries the light pebbles and *débris* into the bay, leaving the coarse and hard near the promontory, can be traced in this earlier formation.

The coarse conglomerate on the south-west side of Carmel denotes a period when the waves came up nearly to the foot of the mountain, and covered the sunken limestone rocks now far inland with *débris* of their own kind, forming a conglomerate now found above the lower limestone to a depth of some thirty feet; but where the force of the wind was broken by the hill, the gentle current brought in the small shelly *débris* and sand, which gradually consolidated, makes now a hard building-stone and a harder mill-stone, and which, in Jewish times, was preferred for the excavation of tombs to the broken and crystalline limestone on the sea-shore. The sandstone is in places found immediately upon a bed of limestone, which has at some time been water-worn, showing that a sandy beach was founded on hard rocks covered some five to ten feet deep.

I cannot conclude this report better than by a few words on the scenery round Haifa, the most picturesque part of the country which we have yet traversed, and an account of which may interest those who care little for the details of geology or triangulation.

We have for the last two months been living literally under the shadow of Carmel, for the long shades creep down the sides of the great flat ridge which extends for fourteen miles from the cliff on which the convent stands to the land end, where it dips down with equal abruptness, and stretch themselves over the plain of Akka at its base, so that Haifa is enveloped in shadow long before the sunset light appears on the brown walls of Akka, and the deep red flush, suddenly followed by a cold blue colour, spreads over the chain, which rises gradually into a high ridge above Safed.

The rugged sides of the ridge of hard dark stone, always steep, often precipitous, are covered thickly with a wilderness of shrubs of dark and rich green. They stream like the torrents which in a heavy winter follow the same course down the narrow wady beds; in parts the bare

rock appears, only covered with a thorny herbage; in other places all is one soft surface of thick vegetation, but hardly ever does any tree even inconsiderable size break the even outline, with the exception of the pines of small size which straggle along the watershed.

The shrubs are principally a kind of pistachio, with red berries, the sponge laurel, the hawthorn, and the arbutus, whose berries are now ripe. The barer parts are covered with the *Poterium Spinosum* (one of the *Rosaciæ*), with the cisti, or rock roses, and with flowers, of which the white-striped asphodel, the jonquil, cyclamen, red and purple anemone, hawkweed, and daisy are now in bloom. Often, too, the horses' feet press out a sweet smell of the thyme and mint which cover the chalky soil. Round Asfia and Dalyeh there are a few plantations of olives, but with this exception the only signs of life are the herds of goats climbing the sides, or a group of gazelles seen up a steep wady, bounding through the shrubs. Such is "the forest of Carmel," the "fruitful field," and such perhaps it may have been in Bible times, for there is no evidence of any great change in the conditions of climate, which should account for the growth of a forest of *trees* which will not now live on the slopes, though the rich soil still claims superiority to that of the stony plain at the foot of the mountain.

Deep in shadow as the side of the hill always is after midday, there is no lack of picturesque points of view, including the neat white German houses, and the ruinous walls and dirty tumbledown buildings of Haifa itself. A lover of colour and effect could not indeed wish for anything brighter than the red flush on the hills, and the blue and purple shadows towards sunset, whilst the ever-beautiful sea, the dim hills and line of palms on the sand-dunes, give sunrise effects most Turneresque in their appearance.

Not less striking is the view of the Kishon, backed by Carmel, which has never, I believe, appeared in any book of travels. I saw it first on a day when huge piles of silvery cumulous cloud shaded plain and mountain. The ridge of Carmel formed a dark background, the grey and silver river flowed through a flat, marshy middle distance of reeds and brown earth, and red and coppery shrubs. A single palm-tree with an old boat formed an appropriate foreground, and on the opposite side, scarce sixty yards distant, a row of solemn herons stood in contemplation, a couple of white egrets were stepping daintily about, and an osprey flew overhead with a fish in his talons.

There are several pools or streams banked up at the mouth by the sand-dunes between Haifa and the Kishon, and on the opposite side. Hither come the duck in stormy weather, and a few snipe and red-shanks can be obtained. Round one, the palms grow in profusion, and make a truly Oriental sketch. On the shore the dotterel and gulls, in the bay the cormorants, and on a stormy day even an occasional Mother Cary's chicken, may be seen; but animal life is restricted to these and to the ichneumons, which seem to exist in numbers in the sand-hills and amongst the broken tombs.

Thus I may close the report of our winter's work in Haifa. Little remains for us to finish there, and in another week or fortnight we shall be able to leave the comfortable little house in the German colony, where we have been stationed during the rough weather (what little there has been of it this year), and have met with every kindness and hospitality from the worthy and energetic little society who have here gained a footing in Palestine. We shall return to tent-life and out-door work, and endeavour, if all goes well, during the spring to fill in the country between our former districts and the sea-shore, and attentively to examine the ruins of Cæsarea, Antipatris, Tantura, Castellum Peregrinorum, and other sites in this hitherto little visited and almost unexplored part of the Holy Land.

CLAUDE R. CONDER, Lt. R.E.,

Commanding Survey Party, Palestine.

MR. C. F. TYRWHITT DRAKE'S REPORTS.

XI.

SHAYKH ABRAYK, *Dec.* 9, 1872.

Vineyard-towers (*ancient*).—In reply to a question about the watch-towers mentioned in my last report as existing in the thickets near Umm el Fahm, I may say that they have all the appearance of vine-yard-towers or garden-houses, but of more solid construction than those now used in Palestine. The old buildings are usually about 20ft.—25ft. square, and constructed of roughly-squared stones, measuring from 3ft. to 4ft. in length, by 18in.—20in. in depth and breadth. These are occasionally drafted with rustic boss. The door is usually very small; the roof of lower chamber, which in one instance remains, is made of blocks laid over a rude arch, which forms their central support. In no case was any trace of mortar or rubble visible. The walls were probably dry, and the crevices would allow a free circulation of air, a great desideratum in buildings such as these, intended only for habitation during the hottest part of summer. Not only amongst the brushwood here, but also in the thickets of Mount Carmel, terraces are frequently met with, showing that once cultivation extended over even the highest parts of the hills, which are now the haunt of the panther and wild boar, the fox, jackal, and wolf, which with the partridge and woodcock are seldom disturbed even by a passing goatherd.

Aqueduct.—Lieut. Conder made mention in his last report of an aqueduct near Saffúriyeh, of which we made a survey. A few remarks on this work may not prove uninteresting. In Jebel el Siah (collection of water) are three shallow pits which give an unfailing supply, and are

called 'Ayyun el Jinnan (the springs of the genii). Close to these, owing to the alluvial nature of the soil, the aqueduct cannot be traced, but on the hillside below El Mesh-hed it may be seen, a narrow and shallow channel cut in the rock. This winds along the hillsides for a distance of $2\frac{3}{8}$ miles, and then crosses a small valley. Beyond this are a series of caves now broken in, through which the channel doubtless passed. A little farther on we come to traces of a constructed aqueduct. This gradually becomes more distinct, and at last assumes the form of a rubble wall 5ft. high. This wall is constructed of large rough blocks packed with smaller stones, the interstices being filled up with a hard mortar, into the composition of which potsherds and ashes largely enter.

At the end of the wall all trace of the aqueduct is lost, till we find it again a channel, 2ft. broad and 6in.—8in. deep, with an inner channel 1ft. broad and 4in. deep, cut in the rock. A little farther and we come to the entrance of a cave, which extends to a length of 580ft., with a height of from 8ft. to 20ft., while its breadth varies from 8ft.—15ft. At the west end of this tunnel the exit passage is blocked up with earth, but leads in the direction of Saffûriyeh, distant $\frac{7}{8}$ mile, for the supply of which the aqueduct was presumably constructed. Two large *barrages* occur in the cavern, cut in the solid rock, and where necessary supplemented with masonry. In the second or western there appears to have been a lower and an upper sluice; the former through a rock-hewn passage, now stopped up with earth, and the latter through a channel of masonry on the top of the *barrage*. Square holes are cut in the roof at intervals, partly no doubt to facilitate quarrying, and partly for the purpose of drawing water. In many places, especially towards the west end, the roof has fallen in, and the original level of the floor cannot be ascertained. We found, however, a well-defined water-line, and on drawing out the sectional plan this was found to correspond with the level of the entrance and exit. The sides of the caves are lined with several coats of cement; the inner is frequently half-covered with potsherds, stuck over it while wet. Above this comes a layer of cement mixed with ashes, and on the surface a firm hard cement of a pinkish hue, from the quantity of pounded red pottery used in its composition. The roof is not plastered, and in many places natural horizontal cracks in the rock have been somewhat enlarged, the better to act as land-drains for the collection of surface water.

The whole length of the aqueduct from Jebel el Siah to the end of the cave is $3\frac{3}{4}$ miles. The style of the work leads to the conclusion that it is Roman. There is nothing, however, to show that it is not late Jewish, constructed under the influence of contact with western civilisation.

Caves and Tombs.—In the rocky glen which leads down from the ruins of El Tirêh to Iksal we found a cave sufficiently curious to deserve mention. A cross cut on a large fallen lintel at the entrance shows it to have been used by Christians, and the interior arrangement seems

to point to a hermit as its occupant. The cave is mostly natural, and is situated in a spur of the hillside, in such a manner that by building a wall of masonry on one side, and a gateway (now ruined) at the end, a chamber was enclosed at the cave's mouth. The stones of the masonry are about 2ft. or 3ft. long, and 1½ft. to 2ft. deep and broad: they are filled in with rubble, and the mortar is mixed with earth and broken pottery.

A cupboard-like recess is left in the masonry, possibly to serve as a seat. The cave itself is divided into two parts: the outer is some 15ft. high at the mouth, but gradually slopes inwards like a funnel, till it ends in a doorway, 5ft. × 3ft. This was formerly closed by a stone door 14in. thick. Inside, the cave is an irregular oval in shape, and about 12ft.—14ft. high. At the far end is a small recess 9ft. from the ground, which can be reached by three rude steps. This would seem the reverend hermit's larder. On the right hand are two more natural recesses, and between them and the door a place has been hewn out which doubtless served as a bed. The floor is many inches thick with the droppings of bats. Struck by this unusual circumstance—most caves being used to shelter the flocks in the rainy season—I asked the reason of it, and was told that the cave was inhabited by a *Ghuleh* (ghoul), and that none of the shepherds dared enter. The native name is Magharet el Mat-húmeh.

I may observe that the tombs which occur in such number at Iksal (see Lieut. Conder's report), sunk in the rock with an arched loculus on either side, are exactly similar to those I described as existing in the neighbourhood of El Tireh and 'Amwas, on the edge of the Jaffa plain, and in Jebel el Zawi, near Aleppo. The lids, however, differ from these last, which are larger, and worked with a ridge roof and other ornaments, as is common in the case of sarcophagus lids.

From Nazareth we visited some caves at Yafa (ancient, *Japhia*), which are very interesting. As far as I am aware, they are unique in arrangement, for I have never seen anything at all like them in Palestine or Syria. The entrance to this curious place is through a small passage leading out of an ordinary cave of moderate dimensions. This passage is only about 12ft. long, and leads into a small roughly circular chamber, nearly 5ft. high, and some 12ft. diameter. In the floor of this are two circular man-holes, "joggled" round the edge to admit of a slab being inserted; these lead into two lower caves, which again communicate with a still lower story. Besides these circular man-holes there are small doorways in the walls, so that every chamber communicates with each of its neighbours above, below, or at the sides by one or more openings. These ramifications are very intricate and puzzling. My sketch-plan and section will show better than any description the style of cave.

From this peculiar arrangement I cannot look upon them as tombs, for which purpose the number of openings would be clearly objectionable. I am inclined to think they were *matamir*, or chambers for

storage of grain, &c. In that case the upper opening would be used to throw the corn in at, while one of the lower ones would be well suited to draw it out at. The stone in which they are cut is very soft, and can easily be cut with a knife. The tool used in excavation was a pick 2⅜in. broad. These caves were first discovered by the fellahin a few years ago, and no bones were found in them. There are, however, rude niches in the walls for lamps: these may have been used by the men who quarried them.

In the neighbouring village of M'alúl is a remarkable tomb constructed with fine masonry. The architectural details of this were sent home by last mail. The natives call it Kasr el Zír, and they say that Zír was brother to Kulayb (the little dog), and Jerro (the whelp), and that this latter was founder of the great tribe of the Beni Helal (sons of the crescent moon). Of these Beni Helal many tales are told: their original country was in Yemen and Himyar, and the history of their wars is mixed up with accounts of Abu Zayd, of mythical renown. Defeated by a Himyarite king, they took refuge in the plain of Esdraelon; and near Sammúneh some trees of *Acacia nilotica* (the only specimens I have met with in Palestine) are said to have sprung from their tent-pegs. For some reason this country did not suit them, and they emigrated to Egypt, many being slain *en route* by the Emir of Ghazzeh. From Egypt they went to Trobolus el Gharb (African Tripoli). This is the popular story, but Shaykh 'Amín, the chief Moslem at Nazareth, says that Jerro was father, not of the Beni Helal, but of the Beni Wail.

The Beni Kulayb was formerly a most powerful tribe of Arabs. I am not aware whether they still exist in Arabia, but have reason to believe that they do not. A relic of the tribe, numbering some eighty tents, may usually be found towards the south-east of the Sea of Tiberias.

At this place we have examined and made plans of a large number of cave-tombs. Some of them are of considerable extent. The only trace of inscription consists of the single word ΠΛΡΘΕΝΙΕ scratched over a loculus, and rudely marked with red paint. The most noticeable peculiarity of the tombs here is that they have both pseudo-sarcophagi and pigeon-hole loculi. By the former I would designate those loculi which are sunk beneath an arch parallel to the walls of the tomb, and have a thin partition of native rock on their outer side; they have much the appearance of a sarcophagus placed in a niche in the wall, but having no space at either end. The pigeon-hole loculus is of the type so well known near Jerusalem (*e.g.*, in the so-called tombs of the judges), which is driven at right angles to the surface of the wall, and is usually about 7ft. long by 2ft. wide, and 3ft. high, the roof being slightly arched in most cases.

Several of these tombs have produced skulls, which add largely to my collection. No other objects except two small wide-mouthed glass bottles, with handles, and of very pretty shape, have been found in

the tombs. A coin bearing a helmeted head and the legend URBS ROMA: reverse, a wolf suckling two children; above, two stars, and below, SMHS, another coin of Constantine, together with the many fragments of Roman tiles (red earthenware) and large hewn stones, point to this place having been an important town during the Roman occupation. Just in front of our tent is a limestone sarcophagus. At one end is a bull's head in relief, surmounting a pendent garland; on one side is a tablet (without inscription) of the ordinary Roman type with two triangular ears; on either side of this are bulls' heads, and below a garland; on the opposite side are a bull's and two cows' heads, with comical semi-human faces, also with garlands beneath. A coin (of the Seleucidæ?) was picked up in the valley below us: obverse, three ears of wheat; reverse, an umbrella, and legend BACIAEVC (?). A small female head, of classical type, was picked up a year or two ago near the village, and is now in the possession of Mikhart Kawwar, native Protestant priest at Nazareth.

In one of the tombs, which was found a few years ago by women digging for clay to mend their roofs with, but having been stopped up by the washing down of the soil, had again to be opened, we found a quantity of rude ornamentation in red paint, evidently smeared on with the finger. The interior of the arch, over three of the pseudo-sarcophagi, was daubed in a way similar to that in vogue amongst the Kurds and Arabs of the present day. Lines and intermediate dots form for them the acme of artistic decoration. In other places a palm branch, a rude wreath, a daub representing pendent garlands, a circle filled with cross lines and having two long curved lines terminating in something like the conventional ivy-leaf so frequent in Roman art, proceeding from its lower part, the representation of a palm-tree (?) partly cut in the rock, and a branch-like ornament with six lines on each side recurved at top, form the total of these rude attempts at decoration.

In this chamber we found the two above-mentioned glass bottles buried in the soil which covered the steps of the original entrance, now blocked up, and were just beside a closed loculus. This had escaped notice, as the colour of the plaster which covered the two stones forming its door was very similar to that of the walls. On opening this loculus we found it full of stones; these were cleared away, and beyond, a chamber was discovered also full of stones, which seem to have been thrown in from a hole in the roof. Nothing but a few bones in loculi sunk in the floor was found in this chamber. The corresponding loculus on the other side of the entrance door had been opened, and does not lead to any further excavation; hence when we first found this carefully-concealed passage we were in hopes of finding something to repay our trouble. The pseudo-sarcophagi had been covered in with slabs, over which mortar had been laid in the shape of a ridge.

The real entrance to the tomb still has its door *in situ*. It is of stone, and hung on two projecting knobs, which fit into sockets in the lintel

and sill. The walls of this cave, which is cut in very soft white stone similar to that at Yafa, are very smoothly dressed. From this cave a way has been broken into a series of ruder ones which contained nothing of special interest. These farther caves, which evidently belonged to a different tomb or tombs, were roughly dressed with a pick one-third of an inch broad. In these, as well as in all the other tombs we have found here, the pseudo-sarcophagi are more numerous than the pigeon-hole loculi; the probable reason being that the former were originally made, and subsequently, when more of the family wished to be buried in the cave, it was found more convenient to excavate a long loculus beneath the older ones than to cut a new chamber. In the immediate neighbourhood of these tombs, which occupy the hill to the west of the present village, are the foundations of three buildings. The stones are of considerable size (about 3ft. × $1\frac{2}{3}$ × $1\frac{2}{3}$) which perhaps were tombs of masonry either independent of or constructed over the caves.

Tells (mounds). Mounds (Ar. *Túlúl*) form a marked feature, not only of the Merj ibn 'Amr, but also of the Plain of Akka and the *ghor* or Jordan valley. In this report I shall, however, confine myself to a few remarks about those in the former locality. They are artificial either wholly or in part, and are, or have been, occupied by buildings. The principal in the Plain of Esdraelon are—1. Tell Ta'annik (*Taanach*); 2. T. Mutasellim (near Lejjun; *Megiddo*, the Roman *Legio*); 3. T. Shaddúd, near *Akhrayfis*); 4. T. Sammúneh (partly volcanic, *Simonias*); 5. Tell el Kasis, and 6. Tell Kaymun (*Jokneam*). Besides these are the smaller ones of Tell el Shemman, T. el Dhahab, and Tell Thora (mentioned by the same name in old itineraries). In cases (as at 2, 4, 6) where a projecting spur at the edge of the plain has been made use of, the earth dug out of the deep trench which was cut to separate the mound from the mainland, so to speak, was used to heighten that side of the mound; the steep sides, surmounted by a wall, being doubtless sufficient protection on the plain side.

On Tell Kaymun, which is a very good example, we found the ruins of a square crusading fort, measuring forty yards each way, and containing five chambers on each side opening into a courtyard. A vault still exists at the north-east corner with a pointed roof of rag-work. A little below this is the foundation of the east end of a church with triple apse. That in the centre is circular, while the side ones are rectangular. Judging from a corbel found here, the building was used by the Crusaders, but a Byzantine capital found among the Arab graves on the plain below points to the probable date of the original building.

Autumn weather.—The winter rains still hold off, though the quantity that fell in October and November—the "former rain"—has proved quite sufficient to enable the fellahín to begin their ploughing. These rains produced an immediate change in the appearance of the country: grass began to sprout all over the hills, the wasted grain on the threshing-floors soon produced a close crop some six inches high.

The cyclamen, white crocus, saffron crocus, and jonquil are in full flower on the mountains, the *ballut* (*Quercus ægilops*) is fast putting out its new leaves, and in sheltered nooks some of the hawthorn trees are doing the same. The *Zemzarút* (species of Judas tree ?) is gorgeous at the foot of Carmel with its clusters of lilac blossoms. These, to our notions, are hardly signs of coming winter, but the advent of numberless starlings and common plovers on the plains and woodcock in the woodlands point to rain not far distant. We hope, however, to gain our winter quarters at Haifa before really bad weather sets in. For the next two months we shall be principally engaged in completing the work done in the field since July. There are, amongst other things, some 600 square miles of country to be put on the fair plan, making in all just 1,200 square miles surveyed. These, we hope, will be ready for sending to England not later than the middle of February.

1873. *Difficulties with Natives.*—We have lately had some difficulties with the natives, which have proved rather serious. This is entirely the fault of the local Turkish Government, who are unwilling to finish any case off-hand, and thus teach the insubordinate fellahín a lesson which they would not forget, and which would secure us from further annoyance. On the contrary, each official tries to make the affair as long as possible in order to gain the more bribes. Promises of assistance have been sent us from Constantinople and Beyrout, and I hope the affairs will be satisfactorily settled before we leave Haifa.

The last ebullition of feeling on the part of the fellahín took the form of firing on one of our surveying parties, happily without effect.

Temperature.—There has lately been a great and welcome change in the temperature, the average of the maximum thermometer being about 75 deg., and the minimum 45 deg. in the twenty-four hours.

Star-shower.—On the evening of the 28th ult. I noticed a star-shower which continued for some hours. The shooting stars seemed all to fall from the zenith. There were remarkably few to the south-east and south-west, while to the north and north-west they were particularly bright and numerous.

Of late, east winds have been very prevalent, which, though dry and cool, are exceedingly trying to those who have been any length of time in the country. To new-comers they appear fresh and agreeable. So long as they continue, rain cannot fall, but as soon as the wind changes to the south-west we may expect a downpour. During the east winds the ozone papers are hardly affected, while a south-west or west wind turns them the deepest possible colour. These latter winds are a most grateful tonic, and one whose effect is immediately felt after the heats of summer.

Hamah Stones.

Haifa, *Dec.* 15.

Having lately seen my friend, the Rev. W. Wright, of Damascus, I urged on him the advisability of taking plaster casts of the Hamah

inscriptions. I have just received a letter from him saying that he has made casts of the stones (? all) under the most favourable circumstances, as he was able to wash and turn them as it suited him, the stones themselves having been bought by H.I.M. the Sultan. They are probably on their way to Constantinople by this time. Mr. Wright has most kindly offered to place these casts at the disposal of the Palestine Exploration Fund, and I am writing to him on the subject, and hope that they will reach England next month.

We are now in winter quarters, and have begun our indoor work. The house we have taken for the rainy season is one belonging to the Prussian colony, of which I hope shortly to send some account.

XII.

German Colony, Haifa, *Jan.* 27, 1873.

In a former report (*Quarterly* for July, 1872) I gave a short account of the Prussian colony at Jaffa. In face of the changes likely to come about in Palestine, these first attempts of Teutonic colonisation cannot fail to be of interest. I may preface the account of the colony with a few additional words regarding the origin of the society, and the first steps taken to obtain a footing in the Holy Land.

The elder Herr Hoffman—father of the President of the Jaffa colony—was a well-known lawyer, and a friend and admirer of Dr. Bengel. He had also great influence with Frederick, first king of Würtemburg, who made him a grant of a large tract of somewhat barren land at Kornthal. Here a colony was formed of Pietists—a sect which numbers many adherents among the simple folk of the Black Forest. After a time, however, the character of the settlement became more communistic than religious.

Herr Hoffman the younger, who had never been a member of the Kornthal community, then founded the Society of the Temple at Kirschenharthoff. Any persons who joined this society had lands alloted to them, which were bought back at a valuation if the settlers chose to go away.

After the establishment of Kirschenharthoff it was judged advisable to begin the real colonisation of Palestine. In 1862 four men came out, and after a short stay at Urtás—near the Pools of Solomon—they came to Nazareth. After many difficulties and much privation endured, they were obliged to leave the country. In 1866 twelve persons established themselves at Akhnayfis, near Nazareth, on the edge of the plain of Esdraelon. Here they lived in huts and hastily-improvised shelters, the result being that several succumbed to the climate. The rest moved on to the neighbouring village of Sammúneh, where they all fell victims to fever. In the end of 1868 the colony at Haifa was founded, and hitherto has proved much more healthy than that of Jaffa. In the

former place but few deaths have occurred, while in the latter nearly every member of the community has been attacked with fever, and no less than eighteen deaths from this cause have occurred during the summer.

The inhabitants of the colony are: men—single, 40, married, 47: 87; women—single, 32, married, 51: 83; children, 84. Total, 254. These persons occupy thirty-one dwelling-houses, to twenty of which out-houses, such as cart-sheds, stables, granaries, &c., are attached. The houses are built of a soft white, chalky stone, which is easily dressed, but hardens on exposure. This is quarried from the side of Carmel, half a mile distant. A few of the houses are built of a reddish rag-stone, quarried on the spot, and much harder than the former. All the constructions are neat and well fitted with European doors, windows, &c., forming a striking contrast to the squalid, untidy dwellings of the natives in the town and on its outskirts.

The trades and occupations are distributed as follows (the figures denote the number of men employed in each): 1 architect, 3 blacksmiths, 2 butchers, 18 carpenters (of these 4 are natives), 1 cooper, 1 dyer, 20 farmers, 1 master-mason and stone-cutter (employing 6 Germans and from 40—45 natives), 2 merchants, 3 millers, 2 millwrights, 1 painter, 1 saddler, 3 shoemakers, 2 tailors, 1 turner, 10 vine-dressers, 2 waggon-builders, 2 whitesmiths.

Of these the architect, carpenter, tailors, and general dealer or merchant are frequently employed by the natives, their work being much superior to any other procurable in the country.

The wages paid to Germans are—

Man	12 to 20 piasters per diem.	
Woman	7 to 10	,, ,, ,,
Child	3½	,, ,, ,,

To natives—

Man	5 to 15 piasters per diem.	
Woman	5	,, ,, ,,
Child	3½	,, ,, ,,

The total extent of land hitherto purchased is 450 acres, of arable land, which also contains 140 olive trees, and 17 acres of vineyards on the lower slopes of Carmel, near the houses. Deceived in their hopes of obtaining the grant of land promised to them by the Turkish authorities, the colonists have determined to buy such land as they require when opportunity offers. The vineyards are likely to prove successful; vines grown from a layer have produced grapes the first year. In colder climates they seldom produce before the third or fourth year. Wine has been made with considerable success.

There are two schools established here, conducted by 3 German and 1 Arabic teachers. In the upper school there are 25 boys and 16 girls; in the lower, 25 boys and 2 girls. Total, 68. In the upper school the subjects taught are, reading and writing in Arabic, English French,

and German, arithmetic, drawing, geography, history, mathematics, singing, and the study of music. In the lower school, reading and writing in Arabic and German, arithmetic, and singing. Religious instruction is given in both. The girls are taught knitting, sewing, and embroidery in the industrial school.

On the whole, the colonists have not experienced much difficulty in dealing with the natives and Turkish authorities. One of the most constant annoyances is the want of anything like a legal determination of landmarks and boundaries. Frequently when a piece of land has been bought, and the colonists commence to cultivate it, a part is claimed by the neighbouring proprietor. Annoyances such as these are somewhat difficult to surmount, especially when the "custom of the country" (bribery) is utterly eschewed.

It is proposed to increase the colony as occasion serves. The main difficulty consists in the choice of proper persons, who will propose to themselves to further the spiritual rather than the worldly aims of the society.

The site of the ancient Sycaminon has always, I believe, been placed at Haifa el 'Atîkah or old Haifa, which lies on the eastern side of the spit of land projecting north from Carmel. Indications as to its site are sufficiently vague, its position in the Antonine and Jerusalem itineraries being laid down at twenty and twenty-four, sixteen and fifteen miles from Cæsarea and Ptolemais ('Akka) respectively. Haifa el 'Atîkah is about twenty and ten g.m. from the two places. There is a neighbouring ruin, however, to which no history attaches, but the claims of which may perhaps be stronger. This is now called Tell el Semak (Fish-mound), and in this word the three initial consonants of Sycaminon are found; it is very possible that the Greek name having no meaning to Arab ears, has, as is so often the case, been corrupted into a common Semitic word. The traces of ruins at this place are very considerable; a tell on a little promontory forms the nucleus, around which are found innumerable fragments of marble slabs, glass, pottery, and hewn stones. This place entirely commanded the coast road, as the sides of Carmel here rise abruptly, and only leave a plain of some 200 yards in width along the shore.

Haifa el 'Atîkah is said by the inhabitants of the modern town—and not perhaps without reason—to have been merely the old site of Hepha. The ruins are now covered with gardens belonging, according to tradition, to the owners of the houses which formerly stood there. One of the principal Christians told me that he was many years ago digging there—according to the usual custom—for ready-dressed building stone, when beneath the sill of a doorway the workmen found a small brass jar, containing 1,000 gold pieces, as he added, of the date of Helena. Helena's name, however, is used to imply remote antiquity, as Cæsar's and the Devil's (of Cæsar's camp, the Devil's highway, &c.) are in England. The coins were probably early Byzantine, as I have lately procured a fine gold coin of that period, found near the same spot.

Among the gardens are found some rude tesselated pavement *in situ*, and on the shore are traces of a small harbour and a mass of rubble work, seemingly of Roman construction.

About a mile and a half south-east of Tell el Semak is a wady, the mouth of which is laid out in gardens, producing vegetables, figs, olives, locust trees, pomegranates, vines, and apricots. These are watered by a spring called 'Ain el Siah, which bursts out of the hard white limestone rock, here plentifully sprinkled through with black flints in finger-shaped nodules. Below the spring is a rock-hewn tank with filtering apparatus, from which the water is led by an aqueduct into the gardens. A little higher up the wady are ruins of two massive buildings, the ashlar of which has nearly disappeared, leaving only the stout rubble, which has the appearance of Roman work, as has a broken semicircular arch. These are called the diura, or monasteries, and tradition says that the last abbot was one Thul el Serjiláui, which seems a reminiscence of Paulus Sergilius. On the opposite side of the narrow ravine is a double cave, inhabited by a fellah who owns a small garden here. This cave is called the monk's stable and Liwan. The lower cave has square recesses cut out of the rock along two sides, which are to all appearance mangers. The upper cave, which is open in front, is reached by a staircase from the first. Facing this place is a spring flowing from a small recess hewn in the face of the rock; beside it are two niches with angular tops much resembling in size and shape two *sedilia*. The name ('Ain Umm el Faruj) and appearance of this spring denote its former connection with some phallic rites, now long since forgotten.

Weather.—This winter there has been an unusually small amount of rain in Palestine, and unless there is a pretty heavy fall before the end of the month there will be a total want of crops in many places where they have hitherto been unable even to plough. This is especially the case in the district of Jenin and Nazareth. Further north, in Syria and the Hawran, I hear that there has been a sufficient rainfall. Up to date the raingauge shows 2.25 inches less than had fallen at the same time last year. The weather has generally been bright and clear, colder than usual, with almost continual east winds. The Nahr el Mukatta (Kishon) and Nahr Naamán (Zelus) have only lately been able (by the help of easterly gales) to force open a channel to the sea through the sandbank which closes their mouths during the dry season.

On the sand-dunes near the mouth of the former stream, I observed a curious deposit of pumice-stone, the pieces varying in size from a good-sized apple to a pea, and being mostly water-worn. This is in the inner part of the bay, whither the current brings the finest and lightest things, small sand, seaweed, and tender shells; the heavier pebbles and shingle are left farther west. The only place whence this pumice-stone can have come, as far as I am aware, is from one of the Italian volcanoes, wafted over, in all likeilhood, by the west winds which prevail in summer.

CHAS. F. TYRWHITT DRAKE.

EBAL AND GERIZIM, 1866.

On the 6th March Lieut. Anderson and I arrived at Nablus, with the view of carrying out some excavations on Mount Gerizim, and examining the points of interest in the neighbourhood. Before, however, attempting to describe the result of our labours, it will be well to give a general sketch of the locality. At Nablus the range of hills which traverses Palestine from north to south, is pierced by a remarkable pass, running nearly east and west; on the north the pass is flanked by the range of Mount Ebal, rising at its highest point to 3,029 feet above the sea, or 1,200 feet above the level of the valley; on the south by the range of Mount Gerizim, rising to 2,898 feet. Between these two mountains the valley rises gently towards the east, to the waterparting between the waters of the Mediterranean and the Jordan, at which point there is a remarkable topographical feature which is not often met with—a recess on either side of the valley, forming a grand natural amphitheatre, the scene, in all probability, of the ratification of the law. From this point the ground falls gradually to the rich plain of El Mukhna, which runs north and south, and is bounded westwards by the steep eastern declivities of Ebal and Gerizim. Where the valley merges into the plain there are two sites of great interest—Joseph's Tomb and Jacob's Well. The beauty of the Vale of Nablus has been frequently described by travellers, and by no one more happily than by Lieut. Vandevelde, who grows eloquent on the charming character of the vegetation, the joyous notes of the numerous birds of song, the soft colouring of the landscape, and the bright sparkling streams. The latter, perhaps, more than anything else, give the vale its peculiar charm. The grateful sound of running water strikes the ear at every turn, and produces a quiet sensation of enjoyment, which is fully appreciated by the traveller weary with the dry and thirsty hills of Judæa.

Amidst this wealth of verdure, clinging as it were to the slopes of Gerizim, the mount of blessings, lies Nablus,* the ancient Shechem; its situation, with easy access to the Mediterranean on the one hand, and to the Jordan Valley and transjordanic district on the other, marking it as a place of importance from the earliest period.

Mount Ebal.—The summit of Ebal is a comparatively level plateau of some extent. There is no actual peak, but the ground rises towards the west, and attains its greatest elevation near a small pile of stones. The view from this point is a perfect panorama, and one of the finest and most extensive in the country, embracing Safed, Jebel Jermuk, and Hermon on the north; Jaffa, Ramleh, and the maritime plain on the west; the heights above Beitin (Bethel) on the south; and the Hauran plateau on the east. The upper strata of the nummulitic limestone, of which the mountain is composed, are so cracked and broken, apparently by the action of weather, that the surface of the plateau, at first sight,

* Photos. 95, 96.

looks as if it were covered by a rude pavement; and it was some time before we realised that it was quite natural. Towards the east end of the plateau is the remarkable ruin called by the Arabs "Khirbet Kneeseh."* It consists of an enclosure 92ft. square, with walls 20ft. thick, built of selected unhewn stones, without mortar. In the thickness of the wall are the remains of several chambers, each about 10ft. square, and at two opposite ends there is a projection of 4ft., as if for defensive purposes. There is a cistern within the building, and round it are several heaps of stones and ruins. Excavations were made, but without result. It is not easy to form an opinion on the object of this building; it is too small for a fortified camp, and though the chambers are somewhat similar to those in the fortified churches, the interior space, 50ft. square, is too restricted to have held a church. There was no trace of any plaster, and nothing that would enable us to connect it with the altar said to have been erected by Joshua on Mount Ebal.

The contrast between the rich vegetation on Gerizim and the barrenness of Ebal has frequently been commented upon by travellers. This arises from the structure of the rock, the strata dipping towards the north across the valley, and thus preventing the existence of springs on the southern slope of Ebal. The mountain, however, is by no means so sterile as has been supposed; for a considerable height it is clothed with luxuriant cacti gardens, carefully cultivated in terraces, and above these, to the very summit, rise a succession of terraces well supplied with cisterns, that speak of a careful system of cultivation and irrigation at a former period. Many of these terraces are well preserved, and planted in springtime with corn, which is as fine and healthy-looking as any on Gerizim. The northern slope of Ebal is rich in springs, and almost as well supplied with water as the northern slope of Gerizim.

At the foot of Ebal there is a modern Moslem cemetery, and scattered amongst the cacti gardens, and over the southern slope, are numerous rock-hewn tombs, which have been alluded to in a previous paper.†

Mount Gerizim.—Immediately above Nablus there are several stone quarries, and in places the limestone strata stand out in bold cliffs, which seem to overhang the town and form a peculiar feature in the view from the opposite ridge, at the point where the road to Samaria crosses it. From the top of one of these, whence escape to the mountain behind would be easy, it is natural to picture Jotham delivering his striking parable (Judges ix. 7—21).

On reaching the summit of the mountain, by the road from the fountain of Ras el 'Ain, a long narrow shoulder is seen stretching eastward to the Samaritan place of sacrifice.‡ On the north the ground descends abruptly to the Vale of Nablus, and on the south there is a more gradual slope, with no water and sparse cultivation. East of the place of sacrifice rises the true peak of Gerizim, crowned with the well-known ruins, and form-

* See Photograph 92.

† See notes on "Tombs," *Quarterly Statement*, No. III., 1869.

‡ Photos. 125, 128.

ing the eastern extremity of the ridge. From this point a spur stretches out northwards, and partly encloses the natural amphitheatre mentioned above. The mountain is almost entirely composed of nummulitic limestone. The summit of Gerizim is a small level plateau, having its largest dimension nearly north and south. The northern end is occupied by the ruins of a castle and church, the southern by smaller remains, principally low and irregularly built walls. In the midst of the latter is a sloping rock, which is regarded by the Samaritans with much veneration; it is said to be the site of the altar of their temple, and they remove their shoes when approaching it. At the eastern edge of the plateau, a small cavity in the rock is shown as the place on which Abraham offered up Isaac. West of the castle, and a short distance down the hill, some massive foundations are pointed out as the "*twelve stones*" which were set up by Joshua after the reading of the law.

Considerable excavations were made under the superintendence of Lieut. Anderson, and the accompanying plan made of the ruins. The castle * is rectangular, with flanking towers at each of its angles; on the eastern side are the remains of several chambers, and over the door of one of them is a Greek cross. The walls are built of well-dressed stones, which have marginal drafts, and are set without mortar; many of them appear to have been taken from earlier buildings.

The church is octagonal. On the eastern side is an apse, on the northern the main entrance; on five sides there are small chapels, and on the eighth side there was probably a sixth chapel, but this could not be ascertained, as the foundations had been almost entirely removed. There is an inner octagon which gives the plan some resemblance to that of the "Dome of the Rock" at Jerusalem. The flooring is partly of marble, partly of tiles, and below this a platform of rough masonry was found; in the intervening rubbish a very early Cufic coin was turned up, which had apparently slipped down through the joints of the tiles. The only capital uncovered was of a debased Corinthian order. The church is believed to have been built by Justinian, *circa* A.D. 533.

South of the castle there are no massive foundations, but numerous small walls, and amongst these are several cisterns half-filled with rubbish; a pathway of late date runs along the crest of the hill from south to north, passing in front of the "*twelve stones*," where for some distance it rests on a mass of loose stones and rubbish, in which some Cufic copper coins were found. The "holy place" of the Samaritans † is a portion of the natural rock dipping to the north-west, and draining into a cistern half full of stones; an excavation in an adjoining enclosure uncovered a mass of human bones lying on a thin layer of some dark substance, which had stained the rock beneath to a dark burnt-umber colour. The Amran said they were the bodies of priests, anointed with consecrated oil, but they seemed rather to be hasty interments, such as would be made in time of war.

There are several platforms of unhewn stone, somewhat similar to the

* Photo. 90. † Photo. 89.

praying-places in the Haram at Jerusalem; and one of these near the place at which Abraham is said to have offered up Isaac, is approached by a curious flight of circular steps.*

The "*twelve stones*" form part of a solid platform of unhewn masonry; there are four courses of stones, and the upper, shown as the "*twelve stones*," is set back eight inches; two of the stones were turned over, but no trace of an inscription was found on them. The stone when exposed to the air is of a dark bluish-grey colour, but when newly broken it has a cream-coloured appearance.

East of the castle are the remains of three platforms, and below them on the slope of the hill are broken terraces; the platforms have evidently been built to support some building on the top of the hill, and add to its appearance; and they, as well as the "*twelve stones*," may not improbably have formed part of the substructure of the Samaritan Temple. Of the temple itself there is nothing left, but to judge from the appearance and construction of the platforms, it probably stood on the site now occupied by the ruins of the church and castle; if it were south of the castle every stone must have been removed, as the ground was carefully examined and no trace of the foundations of any large building was found.

North of the castle is a large pool, and below this and surrounding the hill on all sides are the ruins of a considerable town; to which no distinctive name could be obtained. These ruins are most marked on the southern slope,† where a portion of the enclosing town wall, and the walls and divisions of several of the houses, can be seen; the walls are of unhewn stone, set without mortar.

Near the Samaritan place of sacrifice, at the western foot of the peak, are some inconsiderable ruins, to which every one we asked gave the name which Mons. De Saulcy heard, Khirbet Louzah. This Dean Stanley identifies with the second Luz, founded by the inhabitants of Luz when expelled by the Ephraimites from Bethel.

At the extremity of the arm mentioned above as running northwards from the castle ‡ is a mound, partly artificial, and isolated from the ridge by a deep ditch. There are traces of steps on the four sides leading to the summit of the mound, which was occupied by a building fifty-three feet square, having walls of great thickness. Some excavations were made, but with the exception of a few Roman coins nothing of interest was found. Below the mound on the north are some excavations in the rock, apparently for holding water.

Scene of the reading of the Law.—The natural amphitheatre § previously mentioned as existing at the waterparting near the eastern end of the Vale of Nablus was, probably, the scene of the events described in Joshua viii. 30—35. It may be remembered that, in accordance with the commands of Moses, the Israelites were, after their entrance in the promised land, to "put" the curse on Mount Ebal and the blessing on Mount Gerizim. "This was to be accomplished by a ceremonial in

* Photos. 91, 127. † Photo. 88. ‡ Photo. 126. § Photo. 93.

which half the tribes stood on the one mount and half on the other; those on Gerizim responding to and affirming blessings, those on Ebal curses, as pronounced by the Levites, who remained with the ark in the centre of the interval."* It is hardly too much to say of this natural amphitheatre that there is no other place in Palestine so suitable for the assembly of an immense body of men within the limits to which a human voice could reach, and where at the same time each individual would be able to see what was being done. The recesses in the two mountains, which form the amphitheatre, are exactly opposite to each other, and the limestone strata running up to the very summits in a succession of ledges present the appearance of a series of regular benches. A grander sight can scarcely be imagined than that which the reading of the Law must have presented: the ark, borne by the Levites, on the gentle elevation which separates the waters of the Mediterranean from those of the Dead Sea, and "all Israel and their elders, and officers, and their judges" on this side and on that, "half of them over against Mount Gerizim, and half of them over against Mount Ebal," covering the bare hill-sides from head to foot. Two questions have been raised in connection with the reading of the Law: the possibility of hearing it read, and the possibility of assembling the twelve tribes on the ground at the same time. Of the first there can be no doubt; the valley has no peculiar acoustic properties, but the air in Palestine is so clear that the voice can be easily heard at distances which would seem impossible in England; and as a case in point it may be mentioned that during the excavations on Mount Gerizim the Arab workmen were on more than one occasion heard conversing with men passing along the valley below. It is not, however, necessary to suppose that every word of the Law was heard by the spectators; the blessings and cursings were in all probability as familiar to the Israelites as the Litany or Ten Commandments are to us, and the responses would be taken up as soon as the voice of the reader of the Law ceased. With regard to the second point, Lieut. Anderson's plan † of Ebal and Gerizim gives a good representation of the ground and the principal distances; but without making a minute contoured plan of the mountain sides (a work of great labour), it is not possible to form a correct estimate of the number of persons who could be assembled within the amphitheatre. There are, however, few localities which afford so large an amount of standing ground on the same area, or give such facilities for the assembly of a great multitude.

At the foot of the northern slope of Gerizim is one of the prettiest cemeteries in the country, consisting of a courtyard, with a well, and several masonry tombs, one of which was said to be that of Sheikh Jusuf (Joseph). We were not allowed to examine the tombs, but were much struck with the care bestowed on the trees and garden within the enclosure. The place is called El Amud (the column), and the Rev.

* *Dictionary of Bible*, art. Gerizim.

† Published in "Recovery of Jerusalem."

George Williams has with much probability identified it with "the pillar that was in Shechem," where Abimelech was made king (Judges ix. 6); and with the oak of Moreh, near which Abraham built his first altar to the Lord after entering the promised land, and Joshua set up a great stone (Joshua xxiv. 26).

Jacob's well, at the eastern entrance to the Vale of Nablus,* is covered by a vaulted chamber, round which are the ruins of a church, dating probably from the fourth century. On a second visit to Nablus in May, Lieut. Anderson made a careful examination of the well, and has given an interesting account of his descent, in the "Recovery of Jerusalem." He found the well to be 7ft. 6in. in diameter, and 75ft. deep; there was no water at the bottom, and the well was lined throughout with rough stones, being sunk in alluvial soil. According to Dr. Robinson, the depth in 1838 was 105ft. Christians, Jews, Moslems, and Samaritans, agree in considering this to be the well made by Jacob, and as the tradition goes back to the early part of the fourth century, there seems little reason to doubt that it is the same well at which our Lord met the Samaritan woman. Lieut. Anderson aptly remarks on this point that "the existence of a well in a place where watersprings are abundant is sufficiently remarkable to give this well a peculiar history."†

The small square building known as Joseph's Tomb lies a short distance north of Jacob's Well; within it we found two modern inscriptions, one Hebrew, the other Samaritan, and two vases for burning offerings, similar to those seen at Meiron. Within them were the ashes of some articles of apparel, which had recently been burnt. The tradition with regard to the Tomb is not so continuous as that of Jacob's Well. The little cemetery described above was shown to Maundrell as Joseph's Tomb, and the accounts of earlier travellers are not quite clear. Joseph, as we know, was embalmed in Egypt, and placed in a coffin or sarcophagus, with a view of his being carried by the Israelites to Palestine, and his body was probably conveyed in one of the waggons which accompanied the twelve tribes during their wanderings. The depth of alluvium at this spot, as indicated by Jacob's Well, precludes the idea that his body was placed in a rock-hewn chamber; and if this be really the site of his burial, the sarcophagus may still remain in the soil beneath the little chamber.

The town of Nablus contains many ancient remains, of which the most interesting is the principal mosque, with its fine Gothic portal.‡ A description of the town, however, with its many ruins and its numerous springs, hardly comes within the scope of the present paper, nor is there space to enter upon the history of the place, or the solution of the many questions relating to the disputed sites on Gerizim and elsewhere, such as that of the altar on which Abraham offered up Isaac, &c. These have been fully examined by Robinson, Williams, Stanley, De Saulcy, and other travellers, and in the "Dictionary of the Bible," arts. Ebal, Gerizim, and Shechem.

C. W. W.

* Photos. 131, 132. † "Recovery of Jerusalem," page 465. ‡ Photo. 94.

JERUSALEM.

In a letter dated 28th February, Mr. Schick informs us that he has found portions of three aqueducts at different levels, outside the Damascus Gate, and that he hopes to be able to trace out the source from which they derived their supply of water.

The excavations in the Muristan are being continued, and a series of large tanks connected with each other, and 40ft. deep, has recently been discovered.

In the Haram Area Mr. Schick has confirmed the existence of the ditch north of the north-west angle of the platform, which was first noticed by Captain Warren. He finds several walls of small stone beneath the surface, and believes the old ditch to have been arched over.

Mr. Schick has also found indications of the existence of a vaulted passage near the Golden Gate, running apparently from the old postern in the east wall towards the platform; and after a close examination of the ground near Solomon's Throne, he has come to the conclusion that there was once a tower there similar to that at the north-east angle.

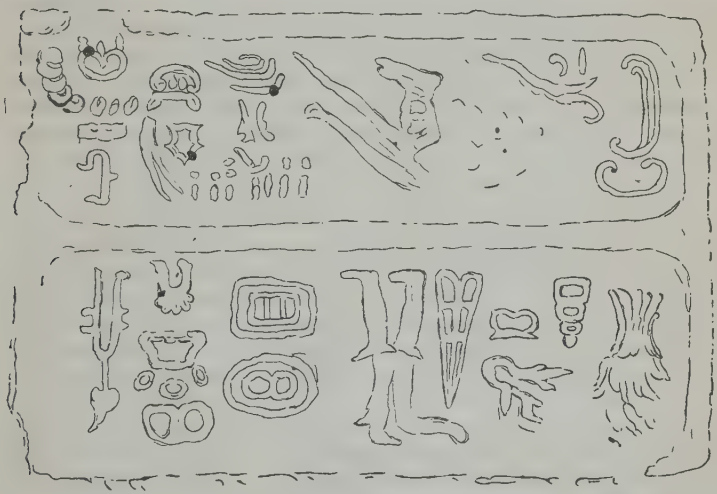
IDEOGRAPHIC INSCRIPTION FOUND AT ALEPPO, AKIN TO THOSE OF HAMATH.

The attention of *savans* has been for some time directed to the ideographic inscriptions found at Hamath, near Damascus, and made known to the scientific world chiefly through the exertions of Captain Burton and Mr. Tyrwhitt Drake. When these two gentlemen were at Jerusalem in 1871, I told them of a similar kind of inscription existing at Aleppo, of which, thanks to the kindness of my friend M. Colonna Ceccaldi, I possessed a drawing made by M. Paucker, and which I gave to them to copy. It consists of two lines, containing figures whose analogy with those of the Hamath inscriptions is evident. The original stone, of basalt like those of Hamath, is embedded partly in the wall of a mosk, and partly in the hareem of an adjacent house. Only the former portion is visible, and consequently either the beginning or the end of the inscription is wanting in the above copy. Mr. Drake, on visiting Aleppo a short time after, found the stone still in its place in the mosque El Kakán; but the engraving given in "Unexplored Syria" differs considerably from the one under consideration.

The authenticated existence at Aleppo of an inscription belonging to the same system of writing as those of Hamath is a fact of considerable importance, as tending to show that these latter, whatever their origin, age, or meaning, are neither confined to one particular locality, nor to

be considered as isolated and accidental specimens. They must be no longer treated as a chance phenomenon, but as part of a regular system of writing belonging to that part of the country (*système régional*); and it is very probable that further researches in North Syria will bring to light other inscriptions in the same character.

Refraining from making any premature efforts to decipher these inscriptions, I will merely remark that the signs are very few, and repeat themselves frequently in groups, which seems to show that they belong to very simple phonetic elements, syllabic if not alphabetical. Apart from any historical interest which they may possess, these inscriptions have a special value in that they prove almost conclusively the existence of an apparently figurative system of writing specially belonging to Syria, and dating from a very early epoch, and may consequently be the means of bringing about some unexpected solutions of the problem as to



the sources of the alphabet. Without wishing so far to dispute the results at which science has already arrived as to assert that the Phœnician alphabet was entirely derived from this ideographic writing, which, so to say, died in giving the alphabet birth, one may still think that the one exercised a certain influence over the formation of the other. It is of course still a question whether this Syrian system of ideography is original, or merely an offshoot from the systems of the two great civilised centres, Egypt and Assyria, of which countries Syria was always alternately the satellite. It is possible that the Syrian ideographic system and the alphabet may have nothing to do with one another, but may both have been borrowed successively and independently from the same source at an interval of several centuries.

CH. CLERMONT-GANNEAU.

THE HAMAH INSCRIPTIONS.

BY THE REV. W. WRIGHT, OF DAMASCUS.

THE existence of the Hamah stones was made known by Burckhardt in 1812, but not with sufficient emphasis to arouse to action English archæologists.

For the last six or seven years I have occasionally heard of these inscriptions, but seldom from any one qualified to give a correct account of them. And after one has been taken a score of times to see a wonderful inscription, which turns out to be only natural stone cracks, or at best a piece of Nabathæan, he does not feel sufficiently enthusiastic for a gallop of two or three days to verify the tale of some ignorant Arab. From all accounts I inferred that the inscriptions were only a conglomeration of wasm, or marks on stone, similar to those burnt on the camels by the Arabs. I, however, resolved to make a careful inspection of the inscriptions the first time my duty led me to the neighbourhood of Hamah. Meantime, Mr. Johnson, in the first *Statement* of the Palestine Exploration Society, and Captain Burton, in "Unexplored Syria," have done much to bring these important remains before the British and American public.

The copies of the inscriptions, as presented to the public, were necessarily unsatisfactory, from the manner in which they were taken. Mr. Johnson says, "We did not succeed in getting squeeze impressions, for fanatical Moslems crowded upon us when we began to work upon the stones, and we were obliged to be content with such copies of this and other inscriptions found on stones *over* and *near* the city gate, and *in* the ancient bridge which spans the Orontes, as could be obtained by the aid of a native painter."*

Mr. Johnson seems to have seen only one of the stones, that in the corner of the shop, for he incorrectly speaks of the others as "*over* and *near* the city gate, and *in* the ancient bridge," no doubt led into topographical errors by the vague reports of the people.

Captain Burton describes the location of the stones where I found them, and where they must have been for a long time; but the inscriptions which he brought away were also the work of "the native painter." In "Unexplored Syria,"† he says, "the ten sheets accompanying this article had been applied to the blackened or reddened face of the four stones—one of which, it will be seen, has a double inscription—and the outlines were afterwards drawn with a reed pen."

Captain Burton, not having full confidence in the native painter and the subsequent corrections, pressed me to get squeezes for the Palestine Exploration Fund, and Mr. Drake, the able representative of that society

* First Statement of American Palestine Exploration Society, page 31.

† Vol. I., 335. "Unexplored Syria" reached me without the Hamah inscriptions, so I have not been able to compare them with the casts.

in this land, knowing that my duty led me towards Hamah, urged me to get, if possible, plaster casts of all the inscriptions. Mr. Green, H.B.M.'s vice-consul at Damascus, had been also looking forward for an opportunity of becoming thoroughly acquainted with northern Syria, and to secure if possible the Hamah stones, or at least facsimiles of them.

An invitation from the Governor-General of Syria, who was on a tour of inspection throughout his province, gave the opportunity, and on the 10th November, 1872, we started from Damascus, I on a missionary tour, and Mr. Green to join the Waly.

On the second day, when in Yabroud, in our school, I secured three large ancient manuscripts of ecclesiastical legends, written on thick cotton paper. They are bulky volumes, bound in strong boards, and written in Karshouni.*

On the 25th November we were the Waly's guests at Hamah, and the next morning early we sallied out to find the inscriptions. We had not been able to get "Unexplored Syria" before starting, and so we had to commence operations without any advantage from the labours of our predecessors.

We had first to find the stones, and that simple operation was not so easy as might seem, for everybody denied any knowledge of them at first. At last we resolved we would ask every one we met, and curiously enough, after this resolve, the first man we spoke to was Suliman el Kallas, in the wall of whose house was inscription No. I.†

The finding of the other three stones, for there are only four inscribed stones in all, not five, as in some accounts, occupied a considerable portion of the day. Meantime, while we were hunting up the stones in an independent fashion, the governor was taken to see them, and had telegraphed to the Sultan, asking him to accept them for the Constantinople Museum. As Mr. Green and I anticipated, Subhi Pasha was far too learned an archæologist not to recognise at a glance the value of the Hamah inscriptions, and far too patriotic to let them pass into the hands of foreigners. He is probably the most learned man among the Turks, and has one of the finest private numismatic and general archæological collections in the world. The Constantinople Museum is his own creation, and he was glad to secure for it these treasures. He, however, consented at once to let us have plaster casts of all the inscriptions, and promised also to bring the stones to the serai, where we could work at them at our leisure. Under other circumstances we should have experienced great difficulty in taking casts of the stones, for a series of fruitless attempts by foreigners to secure the stones had brought the Hamathites to consider the inscriptions of extraordinary value, and we heard many expressions of defiance, and threats of violence towards anybody that tried to interfere with their sacred and valuable treasures. Later on, when

* See Rénan's "Langues Sémitiques," page 266.

† I shall speak of the stones in the same order as Burton.

it became known that the governor would take the stones, we heard men vowing that they would destroy the inscriptions.

Mr. Green and I became nervous as we saw a repetition of the Moabite stone tragedy almost imminent. We assured the men, in whose ground the stones were, that the Waly would not take them without paying more than their value, and that now that the Sultan had accepted the stones, anybody who injured them would be severely punished. We thus enlisted the cupidity and fear of the Hamathites in favour of the stones. When we informed the Waly of the danger, he put the inscriptions under the protection of Ibrahim Pasha for the night, and we warned also the city guards that dire punishment would be inflicted on them if any mishap befell the stones. They were carefully guarded that night, and on the following day the governor paid for the stones, prices varying from three to fifteen napoleons each, and they were all lodged safely in the serai.

The stones once within our reach we worked incessantly at them until we had duplicate plaster-of-paris casts of all the inscriptions. We were much delayed by the difficulty in procuring gypsum, and getting it burned and pounded, and we also had to remove from the inscriptions the dirt and fog of ages, and some of them were almost filled with lime mortar dashed into them. Several attempts also were made to decoy us from our labours, but at length, after patient hard work for nearly two days, we had the stones perfectly clean, and got perfect facsimiles of the inscriptions.

Captain Burton says "the fancy of the copyist had been allowed to run wild" in the copies which he procured; and though he says "these vagaries have been corrected," it is to be feared that some of the artistic fancies of "the native painter" may still be found in the published inscription.

I am happy to say that our casts have none of the vagaries of the native painter. They settle the first question for English archæologists, which is not, as Mr. Hyde Clarke supposes, "whether these drawings, reproduced by Captain Burton, are to be considered inscriptions or not,"* *but whether they are perfectly correct or not.* As facsimiles they answer in the affirmative by the actual lengths of lines, and bars, and letters, and blanks, perfect even to the faults of the stone.

The removal of the stones produced a greater commotion in Hamah than will be readily supposed, and the fact of a British consul and Protestant missionary being the guests of the Waly of Syria, seemed strange and portentous in the eyes of the fanatical Moslems, but was somewhat reassuring to the cringing native Christians. Celestial portents, also, were not wanting, for on the night following the removal of the stones to the serai a meteoric shower in all its eastern splendour was seen by the Hamathites, who saw in every brilliant sparkling train the wrath of Heaven predicted against Hamah in the event of the stones ever being removed. Next morning an "influential deputation"

* "Unexplored Syria," Vol. I., 353.

waited on the Waly to tell him of the evil omens of the night, and to urge a restoration of the stones; but the Waly assured them that inasmuch as no one was hurt the omens were good, and might be regarded as the approbation of Heaven to their loyalty in sending these precious stones to their beloved sovereign the Commander of the Faithful.

Of the stones I have little to add to Burton's description. There are four stones and five inscriptions. The stones are close-grained basalt (fully ripe, as the Arabs say) from the east of the city. Many such stones are lying about, some of them with Greek inscriptions, and some carved into the figures of animals, &c.

No. 1 is only a fragment. The lines seem to be broken across the middle, and therefore the sense is not likely to be complete. When taken out of the wall it proved to be only a thin piece broken off a large stone. The remainder of the inscription is yet to be found.

No. 2 proves, by the last line ending in the middle of the stone leaving a blank at the left side, that the inscription reads from right to left, beginning at the top.

No. 3 is the stone which was so efficacious in lumbago, that a man had only to put his back against it to be made perfectly well. This stone was very large.

No. 4 is on the end, and 5 on the side, of the same square stone, that in the corner of the shop, proving that the lines are read horizontally, and not from bottom to top and *vice versâ*, as Mr. Hyde Clarke asserts. The two faces were carefully dressed for the inscriptions, but the part of the stone most remote from the inscriptions was undressed. The stone was doubtless placed in the corner of a square building.

No. 5 has parts of the upper and lower lines defaced and illegible. This is the inscription the facsimile of which is printed in the first *Statement* of the American Palestine Exploration Society, and incorrectly described as "one of the inscriptions found upon the bridge."*

All the inscriptions except the first are complete, barring the defaced letters. The boundaries of the inscriptions and lines are clearly defined by raised bars. The stones on which they were inscribed were very large. It took four oxen and fifty men a day to bring one of the stones a distance of half a mile. The others were cut in two, and the fragments inscribed were carried to the serai on the backs of camels. The stones were dressed narrow towards the parts on which the inscriptions were found, and the bases were undressed for several feet. Apparently they had been inserted in masonry with the dressed and inscribed parts standing out of the wall. They seem to have been intended to be publicly read, and were therefore doubtless in the vernacular of the people of Hamah.

NOTE.—The casts have not yet arrived, March 31, 1873.—ED. *Quarterly Statement.*

* First Statement of American Palestine Exploration Society, page 32. Burton speaks of the American facsimile as No. 4, Vol. I., page 333, though he correctly describes No. 4 as having only four lines.

DISCOVERY OF THE ROYAL CANAANITE CITY OF GEZER BY M. CLERMONT-GANNEAU.

From the Journal of the Paris Geographical Society.

GEZER is one of the most ancient towns in Palestine, and was in existence prior to the arrival and settlement of the Israelites in that country. In the book of Joshua it is classed amongst the royal cities of Canaan; its king, Horam, was defeated by Joshua whilst attempting to relieve Lachish, which was besieged by the Israelites. Later, after the conquest, Gezer was included in the territory of the tribe of Ephraim, and, in fact, marked its extreme western limit. The Ephraimites allowed the Canaanites they found there to remain. The city was assigned to the Levitical family of Kohath.

It is mentioned several times during the wars between David and the Philistines, on the confines of whose territory it was situated.

During Solomon's reign one of the Pharaohs, for motives of which we are ignorant, made an expedition against Gezer, which resulted in the capture and burning of the town. So great, however, was the strategical importance of the point, that, even in ruins, Gezer was of sufficient value to form part of the dowry of Pharaoh's daughter when she became Solomon's wife. Solomon immediately rebuilt Gezer and Lower Beth-horon, which was near it.

The town of Gezer reappears, under the name of Gazara, in the history of the wars of the Maccabees. Taken by assault in the first instance by the Jews, it passed successively into the hands of the two contending parties, who attached equal importance to its possession. John Hyrcanus, the Jewish commander, made it his military residence.

In spite of the distinct indications contained in sacred and profane works, in spite even of the positive statement in the "Onomasticon" of Eusebius, that Gezer was four Roman miles from Emmaus-Nicopolis, a site well known at the present day, the town of Gezer, though sought for, had not previously been found.

Whilst running through an old Arab chronicle, by a certain Mudjir-ed-din, M. Clermont-Ganneau quite accidentally came upon the passage which led to this important discovery. The Arab historian relates that about the year 900 of the Hegira an engagement took place between Jamboulat, Emir of Jerusalem, and a party of Bedawi raiders, between the village of Khulda and that of Tell el Gezer. The latter name means literally the hill of Gezer, and the Arab name is exactly the same as the Hebrew one. As the village of Khulda is still in existence, and, according to the details contained in the account of the Arab author, Tell el Gezer was so near it that the shouts of the combatants were heard at both places, the latter locality should have been easy to fix. No village, however, of this name was shown on the best maps of Palestine. After having determined theoretically the exact position which the Arab and Jewish Gezer ought to occupy, M. Clermont-Ganneau decided upon making an excursion to test the accuracy of his views on the ground. This expedition, made under adverse circumstances, without escort or

tent, and in a desert country wasted by famine, was crowned with success. At the point which he had previously fixed upon, M. Clermont-Ganneau found the Tell el Gezer of Mudjir-ed-din, and the ruins of a large and ancient city, occupying an extensive plateau on the summit of the Tell. On one side were considerable quarries, from which stone had been taken at various periods for the buildings in the town, as well as wells and the remains of an aqueduct; a little beyond this were a number of tombs hewn out of the rock, the necropolis in which repose the people who have successively inhabited the old Canaanite city. It is scarcely necessary to add that this place is exactly four Roman miles from Emmaus-Nicopolis, and that it completely meets all the topographical requirements of the Bible with regard to Gezer.

M. Clermont-Ganneau points out the importance of the discovery with reference to the general topography of Palestine. Gezer being one of the most definite points on the boundary of the territory of Ephraim, the current views on the form and extent of that territory, as well as of the neighbouring territories of Judah and Dan, must be very materially modified. This result alone is of importance, and makes the discovery of Gezer an event in Biblical researches.

The means by which M. Clermont-Ganneau was enabled to find the town are also worthy of remark; it was by availing himself of a source which is too much neglected, the Muhammedan writings on the history and geography of Syria. This work is certainly difficult and thankless, but the example we have before us shows that it is not unproductive, and that it may lead to the most interesting and unexpected discoveries.

NOTE ON THE DRAWINGS AND COPIES OF INSCRIPTIONS FROM THE "SHAPIRA COLLECTION" SENT HOME BY LIEUT. CONDER AND MR. DRAKE.

Though hastily coloured, the outline of each object has been very carefully followed, and those who saw the drawings and the originals in Jerusalem were of opinion that they were remarkably faithful representations.

Lieut. Conder states that he was unwilling to copy the inscriptions, as owing to the imperfect observation of many specimens errors might have been made which would invalidate their value if executed by one ignorant of the characters employed; but Dr. Chaplin and Mr. Drake, who were more familiar with the characters, copied carefully from the originals, or from good squeezes, those sent home.

The total number of drawings is upwards of 200. These represent all the important specimens in the collection up to the time of Lieut. Conder's last visit to Jerusalem, in October, 1872, the number of pieces then in Mr. Shapira's collection being about 700. Since then, however, the number has been increased to 1,000, and several very important specimens added, of which it is hoped to obtain drawings soon. A great number of the specimens so closely resemble one another that one or two examples are typical of each group. A large number are broken.

The drawings sent home contain specimens of each group, *perfect* ones being always taken in preference to fragmentary ones.

Among these drawings are copies of all the inscriptions yet produced by Mr. Shapira, except a few which have been sent to the office of the Fund by Dr. Chaplin. The genuineness of the inscription is warmly supported by Professor Schlottmann in the "Zeitschrift der Deutschen Morgenländischen Gesellschaft," but the opinions of English scholars have as yet been unfavourable.

To the Editor of the Quarterly Statement of the Palestine Exploration Fund.

SIR,—Will you allow a few topographical queries? In 2 Kings xx. 4, we read, "afore Isaiah was gone out into the middle *court*." In the Hebrew it is not court but *city*, הָעִיר. What is "the middle city"? The Sept. make it the middle *court* (ἀυλη), but the Hebrew is quite explicit. Some critics (Keil, &c.) make it "the central portion of the city, or Zion city," but this does not seem satisfactory. Can you give any light?

In the same book (ch. xxii. 14) we read, "she dwelt in Jerusalem in the *college*." This is literally "the second" (part of the city). The Sept. gives it ἐν τῇ Μασενᾶ, and in Nehem. (xi. 9) we read "over the *second* city," as it should be rendered; also in Zeph. i. 10 we have "an howling from the *second* city." See Keil and Delitzsch, who render it "the *lower* city." What is the exact meaning of these "seconds"?

H. B.

ERRATA, JANUARY NUMBER.

P. 7, line 9, read Nablus *below*.
line 10, ,, soft limestone *above*.
P. 8, line 7, ,, from bottom, species of *truxalis*.
P. 9, line 18, ,, Quercus *coccifera*.
P. 12, line 14, ,, from bottom, *stretching below all, to the foreground*.
P. 13, line 17, ,, Mr. *Duisberg*.
line 21, ,, Mr. *Duisberg*.
line 25, ,, in *search* of saltpetre.
line 3, ,, from bottom, E'*Aal* (*l* not *b*).
P. 14, line 9, ,, Mr. *Duisberg*.
P. 16, line 6, ,, *found; in one piece* (*a disc*) *it occurs*.
line 13, ,, *low foreheads*.
P. 19, line 22, ,, *Rev. J. Neil* (for T. Neil).
P. 21, line 7, ,, from bottom, *of the third wall*.
P. 23, line 8, ,, from bottom, El *Tireh*.
P. 24, line 23, ,, El *Tireh*.
P. 25, line 15, ,, El *Tireh*.
line 23, ,, El *Tireh*.
line 27, ,, El *Tireh*.
line 7, ,, from bottom, *Haifa*.
line 2, ,, from bottom, El *Tireh*.
P. 26, line 11, ,, *Jinjar*.